

Two new species of *Arisaema* (Araceae) from China

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Two new species of *Arisaema*, *A. lidaense* and *A. lihenganum*, are described from the limestone areas of the Yunnan-Guangxi border in China.

Key words: Araceae, *Arisaema*, China, new species.

The Yunnan-Guangxi border region of China, including a wide range of limestone areas, was botanized extensively during the 1970s by Chinese botanists. Many new species were described based on these collections. However, more recent collections from these areas are scarce even in the Chinese herbaria. In our joint Sino-Japanese expedition in 1997 we found many interesting limestone species, of which two new species of *Arisaema*, both from sect. *Fimbriata*, are here described.

1. *Arisaema lidaense* J. Murata & S. G. Wu, sp. nov. [Fig. 1]

Arisaema prazeri affinis a qua minoribus spadiceis appendice spatha brevior et chromosomatum numerum differt.

Typus: China, Yunnan, Wenshan Distr., Funing, Lidazhen, ca. 1300 m, (grown from seed of H. Akiyama et al. 078 and cultivated in the greenhouse of Setsunan University), Jun. 19, 2000, J. Murata & H. Murata s.n. (holotypus KUN, isotypus TI).

Herb to 30 (–40) cm tall but usually smaller. Tuber depressed globose, 1–2 cm diam., with distinct axillary buds. Cataphylls 2–3, surrounding pseudostem, purplish

green, without distinct marks. Leaf usually 1, expanding earlier than inflorescence. Pseudostem green, much shorter than free part of petiole, (3–) 5–12 (–15) cm long; free part of petiole 15–23 cm long. Leaf 3-foliolate; leaflets subsessile, subequal in size; terminal one narrowly elliptic, apex long acuminate, base attenuate, 7–14 (–16) × 2–4.5 (–5.5) cm; lateral ones oblique. Inflorescence bisexual after sex change. Peduncle usually shorter than petiole (much shorter in bisexual inflorescence), 8–15 cm long, curved downwards when fruiting. Spathe green with white patch on the back of the mouth, 4.0–9 cm long; tube narrowly cylindrical, 2.5–5.0 cm long, not expanded at mouth; blade ovate to widely ovate, acuminate, 1.5–4.0 cm long. Bisexual spadix narrowly cylindrical, female part to 1.4 cm long, male part to 10 mm long; appendix green, usually without projections, upright or weakly incurved, gradually narrowed to the top, not exerted from spathe, 3–4.5 cm long. Staminate flowers with white or purple anthers. Pistillate flowers green, ellipsoid, congested. Infructescence depending.

Chromosome number: $2n = 24$ (Murata et al. 2003)

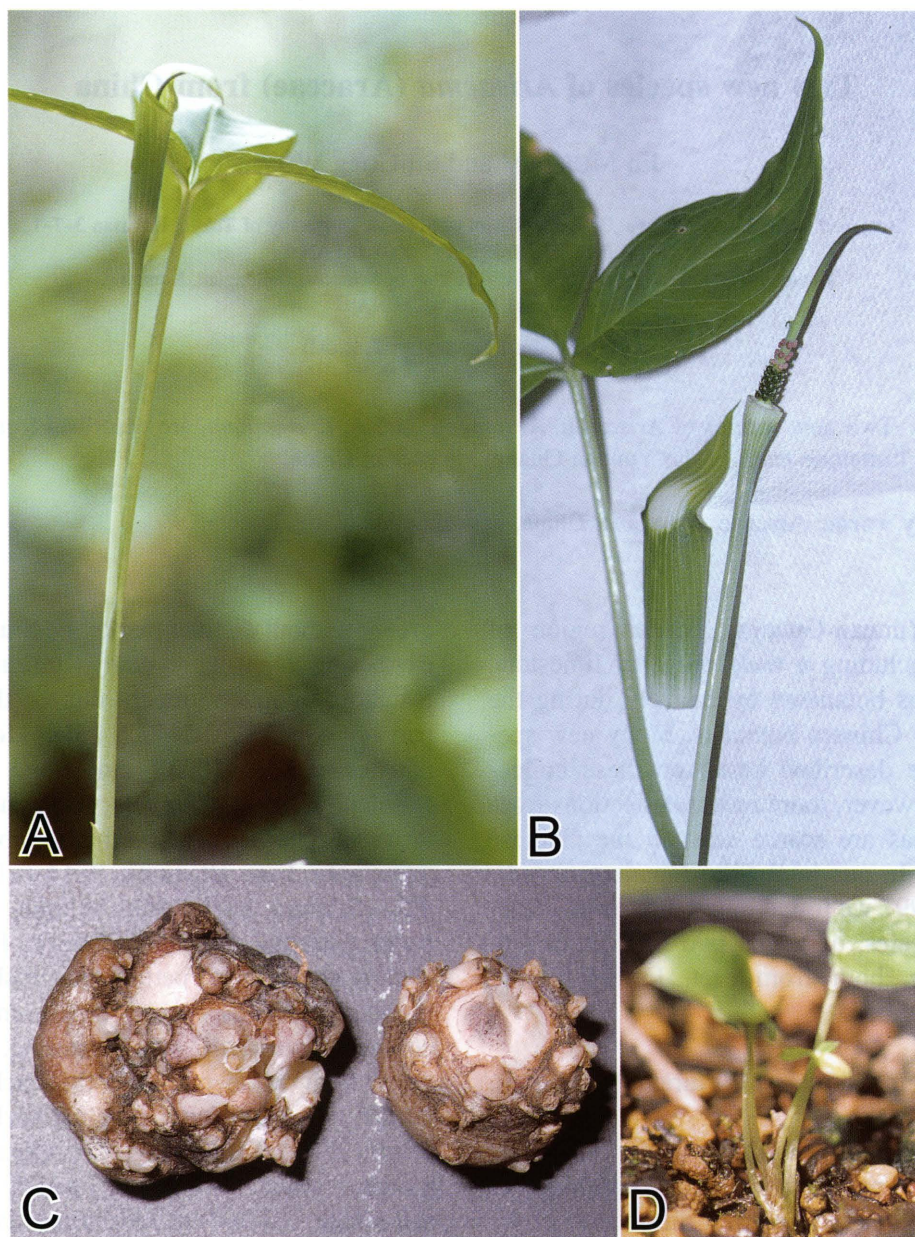


Fig. 1. *Arisaema lidaense* J.Murata & S.G.Wu. A. Habit, $\times 0.35$ (holotype). B. Spathe removed to show the bisexual spadix, $\times 0.5$ (holotype). C. Tubers, $\times 1.5$. D. Juvenile individual producing four normal leaves successively, $\times 0.6$.

Arisaema lidaense appears to be restricted to shady areas in limestone habitats. On the small mountain behind Lida-village (the type locality) it was found together with other limestone species such as *Sophora tonkinensis* Gagnepain (Leguminosae). This species appears to be close to *A. prazeri* Hook. f. ($2n = 26$, Murata et al. 2003) and the *A. laminatum* Blume complex including *A. roxburghii* Kunth (characterized by the chromosome number $2n = 24$, Murata et al. 2003). Morphologically it is very similar to *A. prazeri* and differs from it only in the shorter spadix appendage not exerted from the spathe. Although it is distinct from the *A. laminatum* complex in the shape and/or coloration of the spathe as well as the gender expression after sex change, it shares the same chromosome numbers as the *A. laminatum* complex and is thus considered to be closer to the complex. This species is also very distinct in the seedlings which produce three to five normal leaves successively (Fig. 1D).

2. *Arisaema lihenganum* J. Murata & S.G. Wu, sp. nov. [Fig. 2]

Species insignis spadiceis appendice longe exserta floribus sterilibus filiformibus ad 5 cm obsiti; differt ab *A. fimbriato* necnon *A. victoriae* rhizomate cylindrico (in illud tubere) et pseudocauli nullo (in illud praesenti); ab *A. ornato* laminis trifoliolata (in illud pedata) et spadiceis bisexuali (in illud unisexuali).

Typus: China, Guangxi, Pingmeng, Chigangshan, alt. 1000 m, (grown from seed in the greenhouse of Setsunan University), Feb. 1, 2001, J. Murata & H. Murata s.n. (holotypus KUN, isotypus TI).

Herb to 50 cm tall. Rhizome subcylindrical, creeping horizontally, to 13 cm long, 4 cm thick, branching, purplish to brownish outside, red-purple inside. Cataphylls to 20 cm long, encircling each petiole and peduncle. Leaf 1, expanding simultaneously

with inflorescence. Petiole to 30 cm long, lacking pseudostem, purplish brown mottled with green. Leaf 3-foliolate; leaflets entire, subequal in size, to 25×15 cm, petiolule 3.5–4.5 cm long; central leaflet oblong-elliptic, apex acuminate and caudate, base round-cuneate; lateral leaflets oblique. Peduncle separate from petiole, 11–20 cm long, encircled closely by cataphylls. Spathe tube narrowly infundibuliform, $4.5\text{--}6 \times 7\text{--}9$ cm when opened, white to pale green; blade narrowly deltoid to narrowly deltoid-ovate, $15\text{--}20 \times 5\text{--}6.5$ cm, acuminate, upper half dark red-purple, lower half white. Spadix bisexual after sex change; male portion $10\text{--}20 \times 8$ mm, female portion $20\text{--}30 \times 10$ mm; appendix sessile, slender, 13–16 cm long, exerted from the mouth of spathe and depending, basal part white, dark red-purple above, from base to the top bearing numerous filiform sterile flowers of 3–5 cm long. Staminate flowers basically white. Pistillate flowers green, bottle shaped.

In the long pendulous spadix appendage with numerous sterile flowers this species is similar to *A. fimbriatum* Masters, *A. victoriae* V.D. Nguyen and *A. ornatum* Miq. but it differs from both *A. fimbriatum* and *A. victoriae* in the subcylindrical rhizome and the absence of pseudostem (underground stem tuberous and pseudostem present in *A. fimbriatum* and *A. victoriae*) and from *A. ornatum* in the trifoliolate leaves and the spadix becoming bisexual after sex change (leaves padate with five leaflets and spadix unisexual in *A. ornatum*). The specific epithet of this remarkable species is given in honor of Dr. Li Heng of the Kunming Institute of Botany, who has made a large contribution to the systematics of Chinese Araceae.

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Fig. 2. *Arisaema lihenganum* J.Murata & S.G.Wu. A. Habit, $\times 0.4$. B. Bisexual spadices, $\times 1.0$. C. Rhizome with the transverse section above, $\times 0.7$.

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邑田 仁^a, 武 素功^b: 中国産テンナンショウ属 (サトイモ科) の2新種

1997年に行った雲南省・広西省の石灰岩地の現地調査により発見したテンナンショウ属の2種を記載した。 *A. lidaense* は、全体が小さく花序付属体が仏炎苞より短いという点を除けば、 *A. prazeri* ($2n = 26$) に最もよく似ている。また、 *A. laminatum* とその近縁種 ($2n = 24$) にも似ているが、仏炎苞の形や色と、性転換後に両性花序となり雌花序をつけないという点で異なる。染色体数に関しては *A. laminatum* とその近縁種を特徴づける $2n = 24$ を共有することから、むしろ *A.*

References

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laminatum に近縁であると推定される。 *A. lihenganum* は花序付属体が長く垂れ下がり、多数の糸状の退化花をつけることから *A. fimbriatum*, *A. victoriae* と *A. ornatum* に似ている。 *A. fimbriatum* と *A. victoriae* からは偽茎がなく、地下茎が円筒状の根茎であること、 *A. ornatum* からは花序が性転換後に両性となること、葉身が3小葉に分裂することで区別される。

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